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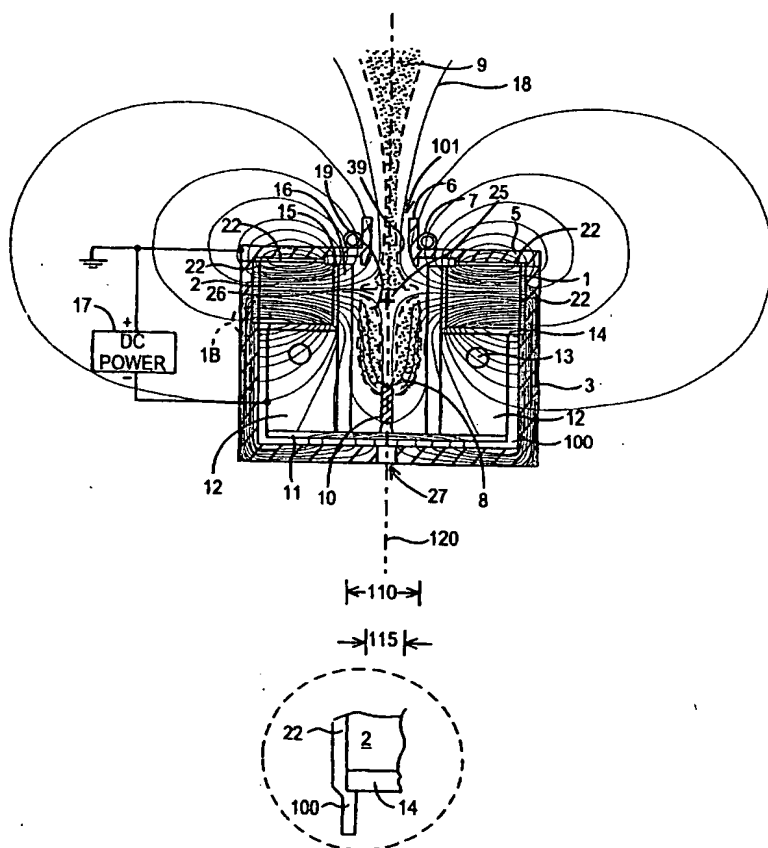
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(54) Title: BEAM PLASMA SOURCE



(57) Abstract: A plasma source which includes a discharge cavity having a first width, where that discharge cavity includes a top portion, a wall portion, and a nozzle disposed on the top portion and extending outwardly therefrom, where the nozzle is formed to include an aperture extending through the top portion and into the discharge cavity, wherein the aperture has a second width, where the second width is less than the first width. The plasma source further includes a power supply, a conduit disposed in the discharge cavity for introducing an ionizable gas therein, and at least one cathode electrode connected to the power supply, where that cathode electrode is capable of supporting at least one magnetron discharge region within the discharge cavity. The plasma source further includes a plurality of magnets disposed adjacent the wall portion, where that plurality of magnets create a null magnetic field point within the discharge cavity.

WO 2004/027825 A2



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